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ABSTRACT

Certain structural changes which are taking place in the labor market and in society are examined in an effort to identify the areas of research in human resources to which vocational education could make a contribution. It is suggested that with improved research knowledge, social and behavioral scientists are beginning to recognize that there is more to human resources development than skill training. The need to develop an interdisciplinary approach to research in the human resources field is discussed from the point of view that vocational education has tended to ignore the need for and contributions of other social and behavioral sciences in the development of a vocational education curriculum. Certain structural changes taking place in the labor market are discussed--changes to which, in the author's view, vocational education has not satisfactorily responded. The need to reallocate educational resources is argued with suggestions offered for redesigning vocational education. Finally, the need to expand activities in the area of assessment of educational programs is presented as well as the need for more educational planning. (NJ)

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HUMAN RESOURCE DEVELOPMENT

AND VOCATIONAL EDUCATION

by

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Foreward

At the request of the Committee on Vocational Education Research and Development of the National Research Council, the author of this paper was asked to develop a paper which would be concerned with, basically, the relationship between vocational education and human resource development. It was suggested that the author develop a paper based on his research activities in vocational education in particular and in human resource development and utilization in general, reflecting in large measure the work of the Institute for Research on Human Resources, The Pennsylvania State University, of which the author is director. This point is made in order to indicate that the author has drawn heavily from work in which he was both directly and indirectly involved.

In general, the paper is concerned with certain structural changes which are taking place in the labor market in particular and in society in general and attempts to indicate the areas of research in human resources to which vocational education could make a contribution. There is, however, an underlying theme, explicit and implicit, that vocational education has not, or will not, accept the challenge in the form of viewing its role in the educational arena in a broader context. Despite this apparent criticism, realistically the author continues to insist that vocational education does have the opportunity to broaden its role.

The paper is divided into six sections. The first section, a brief introduction, attempts to suggest that with the improved research

knowledge, social and behavioral scientists are beginning to recognize there is more to human resource development than skill training.

Section two discusses the need to develop an interdisciplinary approach to research in the field of human resources. In the author's judgment, in general, vocational education has tended to ignore the need for and the contributions of other social and behavioral sciences in the development of a vocational education curriculum. Vocational eudcation, like education in general, has tended to take the smaller view of its role in society.

Section three concerns itself with certain structural changes taking place in the labor market, changes to which vocational education has not responded. Included in this section is a rather full discussion of the developments taking place "on the job," in terms of greater participation of workers in decisions affecting their jobs. Here, too, vocational education, in particular, and education, in general, has not responded in a satisfactory manner.

In section four there is a discussion of the need to reallocate educational resources, particularly at a time when sources of funds are declining while the demands on education are increasing. Suggestions are offered for redesigning vocational education, particularly for those students who find traditional college preparatory and vocational programs unsatisfactory.

Section five calls for the need to expand activities in the area of assessment of educational programs. Though there are still many methodological and data collection problems to be solved and resolved, the task is to concentrate on those issues and not to engage in the endless controversy over whether such assessments can be conducted.

Section six discusses the need for educational planning, a subject about which educators are ignorant. The processes of planning will reveal the basic weaknesses of our eudcational processes and lead us in new directions.

I. Introduction

In 1776 Adam Smith wrote An Inquiry into the Nature and Causes of the Wealth of Nations.[1] In discussing what we would refer to today as the "gross national product," he concluded that the GNP is "regulated by two different circumstances; first, by the skill, dexterity, and judgment with which its labor is generally applied; and second, by the proportion between the number of those who are employed in useful labor, and that of those who are not so employed."[2]

Two centuries later we find Frederick H. Harbison publishing a volume titled Human Resources as the Wealth of Nations[3] in which he asserts that "human resources--not capital, nor income, nor material resources--constitute the ultimate basis for the wealth of nations.... Clearly, a country which is unable to develop the skills and knowledge of its people and to utilize them effectively in the national economy will be unable to develop anything else."[4]

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[1] Any further references to this volume are found in the reprint by the Modern Library, New York, 1937.

[2] Ibid., p. lvii.

[3] Oxford University Press, New York, 1973.

[4] Ibid., p. 3.

Harbison raises the question of whether the GNP should constitute "the supreme or even the primary objective of national economic policy."[5] He suggests four indicators: per capita GNP, educational development, nutrition, and health.[6]

For many years economists followed "the simple minded assumption...that there is a Scotsman inside of every man...."[7] What caused this shift in the emphasis of what constitutes the wealth of nations? Eli Ginzberg suggests that the "revolution in psychology has exercised a major influence on the potentialities of education and training and therefore on the acquisition of skill, talent, and competence...." "...the thrust of the new theory with regard to skill acquisition is that environmental opportunities hold the key."[8]

In his book on The Development of Human Resources, Eli Ginzberg refers to "the new psychology" which "of all the intellectual developments in the twentieth century none has had a more direct and wide-spread influence on the theories and practices of child-rearing...."[9] This approach "focused attention on the overriding importance of the family situation in the development of the child's personality." It also "took a more favorable view toward human potential; and, in effect, asserted that the quality of the environment (in early childhood) was a major determinant of later performance."

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[5] Ibid., p. 5.

[6] Ibid.

[7] Eli Ginzberg, The Development of Human Resources, McGraw-Hill Book Company, N. Y., 1966, p.4.

[8] Ibid., p. 4.

[9] McGraw-Hill Book Company, 1966, Chapter 6.

In addition, the new psychology "by stressing the extent to which child behavior was dictated by natural drives..., shifted the focus from a moralistic to a naturalistic basis." Finally, it "provided an understanding of the ways in which emotional disturbance in later life was linked to defects in the developmental process."

In three studies conducted by the Institute for Research on Human Resources, analysis supported these conclusions.

Although conventional wisdom pointed to the importance of a high school diploma in the labor market, analysis did not support this assumption. Although there were significant differences between the two experimental groups--academic (or diploma) and skill training--in terms of changes in their self-concepts while undergoing the experiments, this reflected primarily differences in the qualities (administrative and teacher attitudes) of the programs, rather than content. But, significantly, these differences did not result in any differences in labor market experiences. It appears that the employment expectations of the dropouts who completed the programs were raised in that they expected "better" jobs. These expectations were not realized. This is suggested by the fact that these subjects tended to be more dissatisfied with the jobs they actually obtained, which, by objective indices, were not different from those of the other subjects. The early developmental background of the subjects appears to have played a more significant role in the labor market experiences than the "retraining" or "re-education."[10]

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[10]Jacob J. Kaufman and Morgan V. Lewis, The High School Diploma: Credential for Employment? The Pennsylvania State University, Institute for Research on Human Resources, 1972.

In a study involving the introduction of a "humanities" education program for young prison inmates who had committed "adult" crimes, it was found that the subjects had not developed a close emotional relationship with their fathers.[11] This failure to relate in a positive way to the basic authority figures in their lives seems to be associated with their difficulties with the law. The employment difficulties experienced by participants in the Concentrated Employment Program, which was also conducted by the Institute, stemmed from several causes. One of the causes was a lack of vocational planning. The participants who were interviewed had almost no idea of what it means to choose a vocational goal and to carry out a plan to reach that goal. The deeply felt belief that such a course of action is even possible for an individual is largely developed from early family experiences.[12]

In these studies, whether involving school dropouts, prison youth, or ghetto unemployed, the effect of a poor early environment seems to affect the outcomes of the experiments. The subjects find it difficult to obtain access to the traditional ladders of upward mobility. Their access is blocked by early childhood experiences that predispose them to failure when interacting with the traditional institutions of our society. The failure is usually interpreted as being caused by the "wrong" (i.e., no middle-class) values. And the

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[11] Morgan V. Lewis, Prison Education and Rehabilitation: Illusion or Reality? The Pennsylvania State University, Institute for Research on Human Resources, 1973.

[12] Morgan V. Lewis, Elchanan Cohn, and David N. Hughes, Recruiting, Placing, and Retaining the Hard-to-Employ. The Pennsylvania State University, Institute for Research on Human Resources, 1971.

programs themselves tend to operate on the assumption that, if subjects are "indoctrinated" with these values, access will be obtained. Unfortunately, it seems that even if their values do become more "middle-class," the structural barriers which blocked them before the educational or training program continue to block them. Such programs are insufficient to provide a good education, or access into a labor union, or information about good employment opportunities. These appear to be the more basic barriers, and not the differences in values.

It also appears that many of these persons have "dropped out" of society and have found it exceedingly difficult to reenter this society, given the amount of effort our society is willing to devote to the development of adaptive characteristics.

This type of finding tends to force the raising of the question of whether resources of society should not be diverted to "improve" persons in their early years by affecting their environment, or by making our institutions more responsive to the life styles created by these environments, rather than concentrating on "compensatory" programs in the later years.

II. The Need for an Interdisciplinary Approach to Research on Human Resources[1]

During the past decade there has been a shift in the interests of many labor economists from the research of the subject of industrial relations to that of manpower or human resources research. Whether this reflects the fact that research funds are available in larger quantities in the latter subject area or whether research funds have become available because of the growing interests of labor economists in human resources can be left to others to determine. It might be suggested that labor economists have begun to realize that the significant problems of human resources development and utilization cannot be handled satisfactorily via the collective bargaining process. The enactment of extensive legislation, with its accompanying appropriations for evaluation of these action programs, tends to indicate Congressional agreement with this proposition.

With such realization, it seems that any attempt to conduct research in the area of human resources calls for the full utilization of the knowledge and methodologies of other behavioral and social sciences.

It is the purpose of this section (1) to define human resource development and indicate that it encompasses more than the economic point of view; (2) to indicate the areas in which the other behavioral and social sciences can contribute to an understanding of the process; (3) to emphasize that the human resource has characteristics different

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[1]Based on a paper presented at a Biennial Meeting of the Pennsylvania Conference of Economists.

from those of other productive resources; (4) to discuss the question of organizing these disciplines for human resource research; and (5) to illustrate the uses to which this collective approach have been, or could be, applied.

What Is Human Resource Development?

Harbison and Myers have defined human resource development as "the process of increasing the knowledge, the skills, and the capacities of all the people in a society."[2] They go on to explain that "In economic terms, it could be described as the accumulation of human capital and its effective investment in the development of an economy. In political terms, human resource development prepares people for adult participation in political processes, particularly as citizens in a democracy. From the social and cultural points of view, the development of human resources helps people to lead fuller and richer lives, less bound by tradition."[3]

Within this framework it becomes evident that all of the behavioral and social sciences have a significant contribution to make in the area of human resource development and that research in each of the disciplines is required if we are to contribute to an understanding of our human resources.

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[2]Frederick Harbison and Charles A. Myers, Education, Manpower, and Economic Growth, (New York: McGraw-Hill Book Company), 1964, p. 2.

[3]Ibid.

Can the Other Behavioral and Social Sciences Contribute to Research on Human Resources?

A late colleague of mine in the field of psychology once stated that in experimental work it was natural for the disciplines of economics and psychology to merge their interests. In his judgment, on the one hand, economists had many models but did not know the experimental techniques to test these models. Psychologists, on the other hand, were well trained in the experimental techniques but lacked models on which to apply these techniques.

In the development of research designs there are basically three approaches: the experiment, the sample survey, and the case study.[4] In the experimental design its greatest appeal is in "its inherent logical rigor."[5] It requires the setting up of adequate controls so that we know the influence of one variable on another. The sample survey, which requires a decision as to what group to select and the collection of data on the group, provides the basis for computing correlations among variables. And the case study involves an intensive examination of "many characteristics of one 'unit'."[6] All of these methods are employed in human resource research, but it is my judgment that the economist is most poorly trained in these methods. He must turn to the behavioral scientists, basically the psychologist, sociologist, and anthropologist for

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[4]Bernard Berelson and Gary A. Steiner, Human Behavior, An Inventory of Scientific Findings, (New York: Harcourt, Brace, and World, Inc.), 1964, p. 18.

[5]Ibid., p. 22.

[6]Ibid., p. 27.

assistance in this area. This is not to imply that methodology is the sole contribution of these disciplines, but it is being asserted that they are extremely effective in this phase of the research process.

Frequently one hears economists urge that the other behavioral and social sciences have little to offer in our understanding of human behavior. In fact, some of the same criticism stems from scholars within these disciplines. It is not my task nor my ability to support or reject this conclusion. But a review of a recent publication by Berlson and Steiner of an inventory of scientific findings in the area of human behavior reveals a total of "1,045 numbered findings from the scientific study of human behavior."[7] The number could have been more or less, depending on the criteria for selection, but the authors indicate that it represents "important statements of proper generality for which there is some good amount of scientific evidence."[8] To what extent are economists familiar with this literature so that they could support the hypothesis that the other behavioral sciences have little, if anything, to offer in the understanding of human behavior? This does not mean that economists must be knowledgeable in this area, but it does mean that the other disciplines can assist us in the study of human resource development.

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[7] Ibid., p. 659.

[8] Ibid., p. 5, emphasis in original.

Are Human Resources Different from Other Economic Resources?

In formulating a conceptual framework for research in the field of human resouces, John C. Shearer has indicated that the characteristics of human resouces are distinguishable from other productive resources in a number of ways.[9] First, in the realm of scarcity he notes that "these resources embody the ever-changing human needs and wants which constitute the reason for all economy activity...." In other words the human resource is both a producer and consumer. In addition, only human resources present what he calls "the nasty problem of surplus," which cannot automatically be solved by a price which "clears the market."

Second, Shearer points out that "human resources constitute the only active factor of production" and that other factors of production have "and produce value only insofar as human resources activate them and value their use to serve the end of humans."

Third, he states that "only human resources react to the internal and external influences of productive processes." Furthermore, "the complex of psychological, social and political, as well as economic, influences affect the efficiency of human resources." Because of these influences the actions of humans are highly unpredictable and it can be asserted that "the ethnic concept of 'economic man' is a gross oversimplification of his complex nature."

Fourth, Shearer asserts that a physical factor of production can be obtained "by paying the market price" whereas the markets for

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[9]See John C. Shearer and Esteban Lederman, Los Recursos Humanos como Parte de Los Processos Economicos, (Santiago, Chile: Instituto Latino Americano de Planificacion Economica Y Social, Junio de 1963), passim., particularly pp. 17-23.

human resources are filled with such complex problems as "mobility, 'balkanization' of labor markets, the noneconomic values of man, etc."

Fifth, it is stated by Shearer that "human resources are the only resources that embody aptitudes and abilities which permit improvement of their value through investment in their development." Through the process of education one can change "the nature of human resources and, in consequence, in the nature and value of their contributions to production." This transformation, however, requires the element of time.

Sixth, human skills, like physical resources, are subject to both obsolescence and depreciation, but, unlike physical resources, depreciate from lack of use rather than from use, in the case of physical capital.

Finally, human resources are highly heterogeneous in terms of physical and mental abilities and therefore make their measurement, in terms of potential contribution to production, exceedingly difficult.

Because of these special characteristics of human resources, in contrast with other resources, it can be asserted that any attempt to measure, change, or understand them requires the full-scale application of knowledge and skills from all of the social and behavioral sciences.

How Can Research on Human Resources Be Organized?

If, then, it is assumed that research in any area of human resources requires an expertise in methodology and a knowledge of

the behavioral and social sciences, the question arises as to whether a specific problem should be handled on a "team basis" or on the assumption that "the best interdisciplinary research is that which goes on within one skull."[10] The advantages of the latter approach are obvious, but the first step in planning it all "within one skull" might well be the team approach, by which each of the social or behavioral scientists learns the "way of thinking" of the other. Max Millikan has indicated that any attempt to understand how nations emerge "from tradition into the modern world" required a knowledge of "the complex economic, political, psychological, and social forces at work...."[11] He indicated his skepticism of assembling a team of specialists each of whom would apply his particular analytic machinery to a part of the problem."[12] Millikan pointed out that "The history of inter-disciplinary research is littered with the failures of such teams to emerge with the kind of synthesis that goes beyond partial insights."[13] He concludes, however, that "we were not sure how else to proceed."[14]

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[10] A quotation of Hanns Sacks which appears in Everett E. Hagen, On the Theory of Social Change, (The Dorsey Press Inc.), 1962, p. x.

[11] Ibid., p. vii.

[12] Ibid.

[13] Ibid.

[14] Ibid.

A Few Illustrations

These comments of Millikan appear in the preface to the volume of Hagen, On the Theory of Social Change.[15] This study, according to Hagen, was prompted by a question which arose in his mind as to "Why have the people of some societies entered upon technological progress sooner or more effectively than others?"[16] Since, in his judgment, "the differences were due only in very minor degree to economic obstacles, lack of information, or lack of training," he turned his attention "to other possible courses of differences in human behavior--to differences in personality, and hence personality formation and the social conditions affecting it."[17]

To what extent may the same questions be raised in our attempts to develop human resource programs in this country? As an illustration of the direct economic approach, one can cite the position of Milton Friedman in which he suggests that a negative income tax is one way by which we can subsidize the poor and raise their income levels.[18] But, as has been stated by Herman Miller, "the more we study poverty the more we find that it is not just an economic problem. It is an emotional, cultural, and political problem as well."[19]

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[15] Cited in footnote 10.

[16] Ibid., p. ix.

[17] Ibid.

[18] Milton Friedman, Capitalism and Freedom, (University of Chicago Press), 1962, p. 192.

[19] Herman P. Miller, "Major Elements of a Research Program for the Study of Poverty," in The Concept of Poverty, (Chamber of Commerce of the United States), 1965, p. 115.

With the development of a variety of Federal programs in the health and welfare one finds that virtually all contain provisions for their evaluation. But, one observer has indicated that the agencies have looked at this requirement as a "formality."[20] It was noted that social scientists have made limited contributions in such type of research because of the difficulties of conducting the experimental programs necessary to carry on evaluation research.[21] In addition, it is suggested that the fear of the social scientists of getting involved in this type of research, which is closely tied to policy question, has limited the amount of such research work conducted by them.[22] The argument is made that no longer can the social scientist "retreat from this assignment any more than it is for all physicists to avoid participation in the development and improvement of destructive devices."[23] This requires him to "participate or rather take a major responsibility for the development of the action framework," and to develop research designs of an experimental nature.[24] If the economist is to participate in such research, he will be required to utilize the services of and work with others in the behavioral and social sciences.

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[20] Howard E. Freeman, "Conceptual Approaches to Assessing Impacts of Large-Scale Intervention Programs," a paper presented at the 1964 Meetings of the American Statistical Association, December 1964, (mimeographed), p. 2.

[21] Ibid.

[22] Ibid., pp. 2-3.

[23] Ibid.

[24] Ibid.

It is fair to state that with the expanding programs, both in numbers and dollars spent, in health and welfare, we shall be faced with the question of judging these programs on a "cost-benefit" basis if we want to allocate our resources most efficiently among the various social action programs.[25] The economists have been making reasonable studies in developing techniques for analyzing costs and benefits of certain types of programs, particularly in the field of education, but in an attempt to make such evaluations one is confronted with the difficult problem of measuring certain qualitative factors. For example, how does one measure the benefit of education or training in terms of the return of an unemployed worker into the labor force, not based on earnings but on the basis of raising the dignity of the individual? It seems to me that the allied behavioral and social sciences can help us considerably on this score.

Sherwood, in a paper on this general problem of evaluating action programs, calls for "the need for a much more vigorous effort to increase general understanding of the need for" such kind of work.[26] In addition, he suggests "the need for the development of impact models and the recognition that action research is going to require a delicate blending of action ideas, theory and research technique."[27] And, finally, he indicates "the need for solutions to the problems of

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[25] Clarence C. Sherwood, "Methodological, Measurement, and Social Action Considerations Related to the Assessment of Large-Scale Demonstration Programs," paper presented at the 1964 meeting of the American Statistical Association, (Chicago), December 29, 1964, (mimeographed), pp. 3-4.

[26] Ibid., p. 22.

[27] Ibid.

the measurement of and relationships between changes and the development and application of prediction instrument technique."[28]

[28] Ibid.

III. Structural Changes in the Labor Market[1]

One must recognize that significant structural changes are taking place in the labor market which cannot be ignored by vocational educators.

The Decline in the Birth Rate

The most significant change during the past decade, in the words of the Manpower Report of the President for 1973, "...has been the clearly marked transition from the three-child to the two-child family average."

In the short-run, this change will be reflected in a sharp increase in the number of married women who will work or who will seek work. For example, by 1980 it is expected that 1.7 million more women will be in the labor force because of this drop in family size. In the longer run, say by 1985, there will be fewer younger workers entering the labor force and the post World War II baby-boom generation will be in the peak working age group of 35 to 54. And by the year 2000, we shall have a much older population.

The implications of this drop in the birth rate in terms of our educational system, our health-care delivery system, training, etc., are profound. What effect will this aging population have on our life-styles and social climate which today are so youth-oriented? For the remainder of this century the proportion of those persons

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[1]Material in this section has been drawn heavily from a paper by the author which appeared in "The Manpower Scene of the 1980s," Manpower Projections for Developmental Disabilities in the 1980s, Temple University, 1974.

who are economically dependent will decline and the proportion who are economically productive will rise. What are the implications of this shift on our society?

The Rise in Educational Levels

Second, the proportion of workers who are better educated (only in the sense that they have completed more years of schooling) has been rising and will continue to rise. It can also be assumed that technological advances will result in a decline in the number and proportion of jobs requiring limited skills and education. With such an "upgrading" in the labor force, the relative position of the so-called "disadvantaged" in the labor market may well deteriorate.

Acceptance of Higher Rates of Unemployment

Third, there has been a greater acceptance of higher levels of unemployment--say, an average of 5 or even 6 percent--as "normal" to offset inflation. This average hides the much higher incidence of unemployment of marginal groups in the labor market and large numbers of "discouraged" workers. Regardless of the correctness of the assumption that a lower rate of unemployment would be at the expense of inflation--generally regarded as a greater evil--it would appear this higher level of unemployment will continue to be considered as "acceptable." Contributing to this acceptance of a relatively high rate of unemployment is the concern over the balance of payments problem, in which it's assumed that the "high" wages of American workers contribute to this problem. All of these factors will contribute to a labor market situation in which employers will not have

to compete for workers and will seek workers whose productivity is high.

Women

Fourth, one cannot ignore the recent increased labor force participation of women, particularly married women, accompanied by increased militancy on their part.

Generally, women have been marginal participants in the labor force as they tend to move in and out of the labor force. Their labor force participation decisions are subject to childbirth, home duties, and the decisions of their husbands. Since single women are free of some of these influences, their labor force participation rate is significantly higher than their married counterparts. Since married women's rates increased much more rapidly than nonmarried women, the gap between them has narrowed somewhat in the past decade. The gap between participation rates for single and married women also exists for blacks, but blacks as a whole differ significantly from white women regardless of marital status.

The fact that women's labor force participation differs significantly by marital status is not due to the factor of marital status per se, but rather to the fact that the factors affecting the two groups differ considerably.

The presence of children seems to exert a much stronger influence on the labor force behavior of married and nonmarried women than does marital status. Single women with no children have labor force participation rates only nine points higher than married women with no children. Single women with children, on the

other hand, had participation rates 34 percent lower than those without children.

With respect to labor force participation rates for women, the ranking from high to low is as follows:

1. Single women without children
2. Married women without children
3. Single women with children
4. Married women with children

The entry, exit, and overall marginal participation of married women in the labor force is a complex phenomenon. The married woman makes decisions with respect to work not only as part of a family unit but also as an individual. Therefore, in entering the labor force she attempts to maximize either her own welfare, subject to the constraint of her husband and/or family, or her family's welfare subject to the constraint of her own well-being. It should be recognized that the constraints may change over her lifetime.

She may work early in the marriage, perhaps to save for a home, may withdraw from the labor force to raise children, and may reenter once the children have left home. For the majority of married women, the life work cycle is typical. While the presence of children in the family unit makes the greatest impact on a woman's decision to enter the labor force, several other important factors not only influence that decision, but also interact with each other. That is, the desire to own a home may postpone the having of children, or the desire to have additional amenities or

send older children to college may mean quicker reentry into the labor force than would otherwise have been the case.

Generally, the other factors can be stated as those relating to:

1. Unemployment
2. Overall demand for women workers
3. Supply (overall) of women workers
4. Earnings
5. Husband's income
6. Educational level
7. Children
8. Age
9. Previous labor force experience
10. Attitudes toward work
11. Other psychological characteristics
12. Custom and tradition

Given the leisure, paid work and nonpaid work (housework) context of the decision to work by the wife and mother we see strong factors at work simultaneously and in the same direction--leading to increased female participation. Rising women's wages, increased productivity in the home, coupled with better products (prepared foods) and services (day care), have tended to increase the women's desire to work. The changing customs, traditions and attitudes, the changing structure of employment with the increase in the service industries, the rising educational levels, and the gradual move toward elimination of "sex-oriented" jobs mean greater opportunities

for women. The increased desire to work as well as the expanded opportunity for women to work, therefore, "explain" why more married women work.

Minority Groups

Fifth, manpower and educational planners have, since 1960, concentrated on the problems of minority groups because of continued disparities between Blacks and whites in terms of income, employment, and overall standards of living. Discrimination continues to be examined as a causal factor which contributes to these disparities, since employers tend to differentiate between minority groups and whites for reasons other than productivity. In the early years, the labor force participation rate of whites tends to be higher than Blacks while the situation is reversed (but to a lesser degree) in the older age categories.

Of course, race per se does not influence labor force participation. Rather the characteristics that the races possess (or that they are perceived to possess) influence their labor force behavior. Differences in those characteristics, therefore, between whites and Blacks should give some indication as to why differential participation rates are observed. Part of the difference in the characteristics may, however, be the result of discrimination. Differentials in education level may, in reality, be the effects of discrimination.

The policy implications of a lower labor force participation rate of Blacks due to discrimination are quite different ones from those due to lack of education, for example. Although the evidence to date indicates that discrimination has distorted labor markets,

incomes, and employment for blacks, even in light of recent educational and income gains, the evidence is far from conclusive and in some cases contradictory.

The question of whether to institute policies to eliminate discrimination or to increase the market power of Blacks through training and education rests on a resolving of the issue to the extent to which discrimination has caused the extent of a lower rate of labor force participation by Blacks.

On the basis of a number of studies we might say (1) that as measured by unemployment rates, black workers' jobs are only half as secure as white workers' jobs, (2) the discouragement effect for Blacks (of all ages) is proportionately stronger than for whites, and (3) therefore, we would expect the proportionately lower rates of labor force participation for black males and black females.

One final comment on Black labor force participation should be made, particularly with respect to the influence of educational levels on the participation rates. Although the gap between white and nonwhite levels of education has been steadily narrowing over the last decade, it is likely that the increase in overall educational levels of Blacks was generated more by the significant increases in Blacks with less than a high school diploma rather than the elimination of disparities in college education. The Blacks have not really experienced any substantial improvement in their occupational distribution. They are still being confined, to a large extent, to lower paying, marginal occupations, either because of continued educational disparities, market imperfections, or racial discrimination. The

observed labor force behavior of Blacks manifests a complex combination of all factors mentioned.

The Elderly

Sixth, according to the 1973 Manpower Report of the President, an increase of 43 percent in the number of persons 65 years and over can be expected by the end of the century. Of the total people recorded as not being in the labor force in 1972, nearly 60 percent were out of the labor force due to retirement and old age. The effect of age is also reflected in the decline in the labor force participation rates for all age, sex, and marital status groups. For elderly single males and single females, labor force participation rates have shown a tendency to increase during the last several years, after having declined steadily since 1947.

However, elderly married males exhibit only slightly higher labor force participation rates than for nonmarrieds, while single elderly females have rates over two times higher than their married counterparts. Married elderly female participation rates have remained fairly constant over the last several decades while the rates for married males age 65 and over have declined steadily over the same period. Regardless of marital status, elderly males participate in the labor force more than females.

The secular decline in participation rates for all groups--especially those whose participation rates were high to begin with (married and single males, single females)--is understandable given the growth in quantity and quality of pension and retirement plans, social security allotments, and forced retirement provisions.

Over the life work cycle of a worker it is to be expected that labor force participation will decline the older a person becomes, simply because of the aging process itself. What has been of concern to many economists, sociologists, and psychologists is that the drop comes so abruptly between the ages of 64 and 65--for artificial reasons and not labor market reasons. Certainly some additional research needs to be done to estimate the cost to society of forced removal from the work force of potentially productive people.

Another serious problem faced by older workers is that of unemployment. These individuals more than likely are very closely tied to jobs and/or occupations, perhaps are not as productive as they once were (or are thought to be less productive), and are less likely to be able or want to move to another job, industry, or region in search of a similar job. Studies have shown a general reluctance or unwillingness of older workers to retrain for existing job opportunities.

Therefore, the conclusion that older workers are willing to accept lower wages if they could find jobs seems reasonable. However, only about a third of the older workers felt they had a good chance of finding work at even a lower wage as compared to those whose age was less than 35, of whom three-fifths felt their own chances to be good or very good.

Some researchers report that older workers' behavior reflects their attempt to maximize the expected value of their remaining work lives. But they point out that older workers' perception of the market may be distorted by the hiring practices of firms with respect to older workers and by the fact tht the only jobs open to them may be low paying jobs--perhaps even at entry level.

Job Improvement

The past decade has seen a heavy emphasis placed on the unemployed and the underemployed. This resulted in numerous efforts to provide proper training to the unemployed and underemployed and thus facilitate their employment and job upgrading. It was argued and accepted that a viable solution to the problem of poverty lay in education and training opportunities for the poor and the disadvantaged.

The emphasis on the unemployed and the programs aimed to facilitate their employment obscured the plight of the people already employed. A Department of Labor report[2] indicates that there are approximately 20 million employed people who are making between $5,000 to $10,000 per year. They are econom cally trapped and socially scorned. Many of the working poor earn just slightly more than welfare recipients, bear a heavy burden of taxes, and have little political influence. Others, with somewhat higher income, find their living standards being lowered by the increased demands upon their take-home pay and inflation.

In consideration of the plight of these employed workers, recent emphasis has focused on studying their problems and seeking some solutions.[3] The key problems are: lack of job improvement and promotion, safety and health; job security; and challenging work.[4]

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[2] United States Manpower in the Nineteen Seventies, Department of Labor, 1970; also a speech given by Assistant Secretary of Labor, Jerome M. Rosow, "Blue-Collar Blues," on October 30, 1971.

[3] Seymour Brandwein, "Upgrading: Program Experience and Policy Considerations," a paper presented at 31st Meeting of the National Manpower Advisory Committee, September 17, 1971.

[4] "Job vs. Careers," editorial, The New York Times, September 8, 1970.

The importance of providing employment for the unemployed cannot be denied. At the same time, the plight of the employed but trapped workers cannot be ignored. The plights of both are grave. An attempt to improve the quality of work through promotional opportunities and on-the-job training will give the working poor a chance to earn better than subsistence wages. The opportunities for advancement will enable the presently trapped workers to improve the quality of their life, not only by enabling them to enjoy the products of prosperity, but also by providing them with challenging work. The openings provided by the promotion of those presently in low level jobs will provide opportunities to hire those presently unemployed.

Changing technology needs and requires an adaptable labor force. It is, therefore, necessary to formulate guidelines--both long run and short run--which will provide flexibility on one hand and the ready, trained labor force on the other. Such guidelines will eliminate the excesses or shortages of the labor force which occur cyclically in special areas of employment.[5]

Workers dissatisfied with their jobs are certainly not a new phenomenon. The problem of discontented employees encompasses both the white-collar and the blue-collar worker. What is new is the intensity of their complaints and their increased willingness to do something about it. It should be clear from worker rebellions that the rebellion does not stem from traditional complaints about money and work conditions and thus cannot be solved by merely more pay. Rather, the problem stems from deep psychological wounds. This was

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[5]R. A. Lester, "The Adaptation of Labor Resources to Changing Needs," Monthly Labor Review, March 1966, pp. 245-49.

confirmed by a national survey published in the Monthly Labor Review which ranked the characteristics which the workers felt contributed to job satisfaction. Demand for higher salary was ranked last, while having a supervisor taking a personal interest and praising good work; receiving adequate help, assistance, time and tools to do the job; and the feeling that promotions are handled fairly by the employer were ranked first, second, and third respectively.[6] Worker discontent is visible through the disruptions in the productions process--sabotage, incomplete work, high absenteeism, high turnover rate, inefficient work, slow down, etc.[7]

In modern times, the primary emphasis of the managerial process has been placed on efficiency. In order to achieve efficiency, it was deemed necessary that the work process be simplified so that more could be accomplished without taxing the ability of the worker. "In spite of a culture which emphasized speed and mechanization to a degree which makes for robot-like performance, the old values of craftsmanship, of creativity, of individual initiative, and of self-determination are very much alive in millions of American workers. Men still prefer jobs which challenge their skills and give them some measure of decision making and responsibility. The fact that the great majority of jobs offer a routinized work content is a

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[6]Neal Q. Herrick and R. P. Quinn, "The Working Conditions Survey as a Source of Social Indicators," Monthly Labor Review 94, No. 4, April 1971, pp. 15-24.

[7]The New York Times, January 23, 1972. In a news report on General Motor's Lordstown, Ohio, assembly plant, it was reported that even though the wages are good, one of the main reasons for discontent seems to be a lack of opportunities to express one's ability.

constant source of frustration to the man who still has some craftsmenship and enterprise in his make-up."[8] There are cases of people who do not want more responsibility; they may have different ideas about self-development, and they may not be prepared for the added responsibility that accompanies an expanded role.[9] But these are exceptions. "By and large, people seek more responsibility, more skill-demanding jobs than they hold, and as they are able to attain these more demanding jobs, they become happier, better adjusted, and suffer fewer health complaints."[10] Besides, if the workers derive most of their satisfaction away from their jobs, then there is something wrong with the system and there is a need to restructure the jobs such that both the efficiency and the humanism are recaptured.[11]

There are various terms used to describe the development of the labor force. "Upgrading" usually is defined to include training and advancement of nonsupervisory workers to higher paying jobs after successful completion of training.[12] "Job enlargement" or "job enrichment" implies that the nature of the job is broadened and the

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[8]Daniel Katz and Robert L. Kahn, The Social Psychology of Organizations (New York: John Wiley & Sons, Inc., 1966) p. 373.

[9]Strauss, G. "Some Notes on Power Equalization," in H. Leavitt (ed.) The Social Science of Organizations (Englewood Cliff, N. J.: Prentice-Hall, 1963).

[10]Katz and Kahn, op. cit., p. 364.

[11]John Kenneth Galbraith, The New Industrial State (Boston: Houghton Mifflin, 1967).

[12]Conference on Upgrading and New Careers, sponsored by the Manpower Policy Task Force, March 20, 1970, in Washington, D. C.; also J. R. Bright, Automation and Management, (Boston, Mass.: Harvard Business School, Division of Research, 1958).

worker is trained to perform larger and more varied tasks.[13] Job enlargement does not always mean higher wages. However, it does imply that new opportunities for promotion will open to the worker, which may result in higher pay. It also provides a more challenging job. "Job improvement" is used here to mean that the worker should be provided with an opportunity to perform a more challenging job--larger, more varied, and less repetitive. It will also mean that the worker should be given more responsibilities and that his chances of promotion--and thus higher pay--are greater within the firm. Such opportunities may enable the worker to reach his full potential--including self-fulfillment and increased job productivity. It may not be out of place to mention that however the terms are defined and used, they all point to one direction, and that is betterment of the employed-but-presently-trapped worker. In other words, "job improvement" will free the worker from the constraints which limit his or her control over the jobs and the immediate work environment. It will give the workers an opportunity to use their skills to the fullest extent and thus take pride in their work and derive satisfaction from it.

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[13]For definition of job enlargement see W. J. Paul, K. B. Robertson, and F. Herzberg, "Job Enrichment Pays Off," Harvard Business Review, March-April 1969, pp. 61-78; and J. F. Biganne and R. A. Steward, Job Enlargement: A Case Study, Research Series No. 25, (Ames, Iowa: State University of Iowa, Bureau of Labor and Management, 1963.).

The main thrust of the literature available on job improvement is on "motivating" employees.[14] "Motivating" in this sense usually means causing workers to perform their job tasks at the level required for the productive process to continue. The majority of production process jobs involve repetitive tasks which deny job satisfaction. These workers are told, in effect, that they are not capable of performing complicated tasks successfully. Furthermore, the concept of job simplification, which is instituted to maximize efficiency, prevents the worker from exercising any control over the content of his job. The assembly line production further removes the control over the speed of his work. Since the skills a worker acquires are so fractionated, they provide little opportunity for vertical or even horizontal mobility. This stratification of occupational structures tends to trap workers--especially the young and the more educated. They become dispensable parts of a vast and complex machinery. Those who are alienated by this system emerge as disenchanted trapped workers who lack motivation.[15] The problem of worker motivation is further complicated by the lack of

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[14]F. Herzberg, "One More Time: How do you Motivate Employees?" Harvard Business Review, January-February 1968, pp. 53-62; W. J. Roche and N. L. McKinnon, "Motivating People with Meaningful Work," Harvard Business Review, May-June 1970, pp. 79-110; M. S. Myers, "Who Are Your Motivated Workers?" Harvard Business Review, January-February 1964, pp. 73-88.

[15]H. L. Sheppard, "Discontented Blue-Collar Worker: A Case Study," Monthly Labor Review, April 1971, pp. 25-32; C. R. Walker, "The Problem of Repetitive Jobs," Harvard Business Review 28 (3), 1950, pp. 54-58.

promotional opportunities, bad working conditions, and no room for creativity which further deny the worker his psychological fulfillment.[16]

The lack of worker motivation is not self-perpetuating and self-sustaining. Rather, it is reinforced by the existing circumstances of his work. It is in this regard that the concept of worker motivation is advocated. There are those who claim that the only way to motivate an employee is by giving him challenging work in which he can assume responsibility.[17] The challenging job permits a feeling of achievement, responsibility, growth, advancement, recognition, and, above all, self-satisfaction and enjoyment from work itself. Advocates of this position point out that the basic needs of the worker--shelter, food, health care, etc.--are fulfilled. Beyond these basic needs are such nontangible needs as self-recognition, job satisfaction, achievement, promotional opportunities, etc. The only way a worker can achieve these goals is through the opportunities provided by job improvement. This job improvement works in two ways. First, it attempts to provide opportunities to those who are already employed. Second, the upward movement of already employed people creates openings in the bottom which can be used to employ the unemployed.

Job improvement proceeds at three levels: attitude changing, remedial education, and job skills development. The success of the

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[16]Judson Gooding, "Blue-Collar Blues on the Assembly Line," Part I, Fortune, July 1970.

[17]F. Herzberg, op. cit., and W. J. Roche and N. L. McKinnon, op. cit.

program depends on the support system developed by the organization which makes pre-training preparations, provides training support, personnel help, involvement with the staff, etc.[18] Other factors which contribute to the success of the job improvement program are: clear evidence of promotional opportunities available to the worker; worker participation in solving problems; and minimal division between management's and workers' responsibilities.[19]

Thus far all the attention has been focused on the problems of the worker. The worker is entitled to all the help he can get in his efforts to improve his lot. Employers, however, should not be ignored. They play the crucial role in that they are the ones who provide employment. So far it has been tacitly assumed that the employers will do whatever is necessary to improve the lots of the employees. However, employers have to consider the costs and benefits of instituting such programs. If the costs are too high or the expected gains are not convincing, then employers will not make the efforts necessary to provide job improvement and growth opportunities for their workers.

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[18] L. Nadler, "Helping the Hard-Core Adjust to the World of Work," Harvard Business Review, March-April 1970, pp. 117-126.

[19] Judson Gooding, op. cit., Part III, Fortune, December 1970; C. R. Walker, op. cit.; and Roche and McKinnon, op. cit.

There are several studies which document the success of job improvement in several industries.[20] All the studies conclude that job development is a viable solution to the various problems facing both the employer and the employee. Typically, the employee is given an opportunity to exercise some control over the content of his job, given recognition for his achievements, given more responsibility, and even given a chance to enjoy work itself. The combination of all these factors usually results in decreased production costs, increased productivity, accelerated learning time and hence reduced costs, fewer complaints and grievances, and eventually larger profits for the employer. Thus job improvement proves to be mutually beneficial to both the employer and the employee. Furthermore, a job becomes a vehicle for individual development which facilitates the company's growth also. This makes the management process an organization service rather than a control.[21]

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[20] J. Macgregor, "Some Plants Prosper by Yanking the Time Clock, Easing Employee Rules," Wall Street Journal, May 22, 1970; W. J. Paul, K. B. Robertson, and F. Herzberg, op. cit., E. R. Gommersall and M. S. Myers, "Breakthrough in On-the-Job Training," Harvard Business Review, July-August 1966, pp. 62-72; M. S. Myers, "Every Employee a Manager," California Management Review, Spring 1968, pp. 9-20; and W. J. Grinker, D. D. Cooke, and A. W. Kirsch, Climbing the Job Ladder, (New York and Washington, D. C.: E. F. Shelley and Company, Inc., 1970).

[21] There are many firms which are involved in the job improvement program of one form or another. Some of the firms are: I.B.M., Texas Instruments, Alcan Aluminium Corp., Precision Casteparts Corp., Corning Glass Works, Proctor and Gamble, A.T.&T., Lockheed, Motorola, Donnelly Mirrors, Inc., Boeing, Eastman Kodak, Westinghouse Corp., United Airlines, R. G. Barry (Footwear), and Bankers Trust Company in New York. The diversification of these firms in itself speaks for validity and success of job improvement programs.

Employers attempt to operate in a manner which they believe to be most efficient. However, management today generally sees little need to change its employment practices. Most managers believe that opportunity for advancement exists within their organizations and the workers have only to take advantage of it.[22] Special training efforts have usually been stimulated by specific skill shortages, when an employer has been unable to hire the skills which are needed in the labor market. In the absence of business crisis, management is unwilling to change its production process or job structure without an economic justification and an assurance that production flow and profits will be maintained and improved.

The employers focus their attention on matching existing workers and jobs, and not on upgrading to meet the job requirements. They are reluctant to provide training because they consider themselves as businessmen and not educators. They are reluctant to assume either the responsibility or the cost of training. Their reluctance is further increased by the high rate of turnover which reduces the potential return from training investment. It is a part of the traditional belief that the free market will meet their needs, even for special skills.

The problem of employer reluctance is further complicated by the hostile attitudes of many labor unions. The unions not only distrust the management but also resist any change in the rigid--structural--patterns of jobs. Labor unions often view job improvement

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[22] A. W. Kirsch and D. D. Cooke, Upgrading the Workforce: Problems and Possibilities, (New York and Washington, D. C.: E. F. Shelly & Company, Inc., 1971).

programs as a threat to their own existence and, hence, oppose such programs.[23] It is true that job improvement calls for greater participation by the labor force in the decision-making process. But it does not eliminate the unions. Rather, job enlargement seeks to eliminate the policing role of the unions by seeking their cooperation. At the same time, it attempts to enhance the position of the union as labor force's representative in the decision-making process, and creates an environment of trust and cooperation. The success of the union in advancing the welfare of its members is not independent of the growth of the firm. They both depend on each other, and, hence, they should cooperate rather than fight.

As the problems of productivity, discontentment, absenteeism, high turnover, etc., become more acute, the need for continuous training programs, as proposed by job improvement, becomes more evident. Even though there are attempts to automate every production process, the human element cannot be eliminated. It is argued that after the elimination of simplified and boring jobs by automation, the remaining jobs provide more freedom, responsibility, and dignity.[24] Thus, as long as the human element is involved, there is

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[23] M. S. Myers, "Overcoming Union Opposition for Job Enrichment," Harvard Business Review, May-June 1971, pp. 37-49; Michael Maccoby, Principles of Humanizing Work," AAAS Symposium on Technology and the Humanization of Work, December 27, 1971. Mr. Maccoby points out that opposition stems primarily from union leaders because success of such a program tends to undermine their position most.

[24] F. C. Mann and L. R. Hoffman, Automation and the Worker: A Study of Social Change in Power Plants (New York: Holt, Rinehart and Winston, 1960); and R. Blauner, Alienation and Freedom: The Factory Worker and his Industry, (Chicago: University of Chicago Press 1964).

the need for some type of job improvement program which is beneficial to both the employer and the employee.

The success of a job improvement program depends, albeit not entirely, on the structure of the organization. The traditional organization which maximizes efficiency and which depends solely upon its blueprint of prescribed behavior is a very fragile system and has little, if any, room for change. Such an organization attempts to structure jobs on the basis of job content independent of any consideration for the worker. The success of such an organization depends on the acceptability of its authority and its rules as binding on the members. Such an organization consists of patterned behavior; if its members misperceive the organizational boundary and misbehave in terms of it, they threaten the very life of the organization. However, the structure of an organization is to be found in an interrelated set of events which return upon themselves to complete and renew a cycle of activities. It is events rather than things which are structured so that an organization, like a social system, is a dynamic rather than a static concept. Thus, in order to change an organization, we must redefine the roles of the participants in that system.[25] Roles in an organization are interdependent. They are filled by people, not by mechanical devices, and people have other interests and involvements. In order to make work as the

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[25] R. G. Hunt, "An Essay on Profit Motive," Defense Management Journal 5, 1969, pp. 6-11. Hunt argues that to change an organization we must change the perception of the people. However, the results of most studies indicate that the management has little desire to change its organization. Rather it is interested in changing peoples' (especially its workers') perception of itself.

principal interest and involvement, an organization has to redefine its roles. Physical attendance of a worker is not sufficient. Active participation coupled with attendance can be achieved only through self-motivation and self-interest in the job.[26] In other words, everything that does or can happen is dependent on everything else that does or can happen; that is, all events are correlated. Thus, the concept of cause and effect is discarded.

The review of the literature on worker participation begins with the work situation without consideration of the forces which shape individual behavior prior to entering the world of work. It may well turn out that the impetus toward greater worker participation derives more from pre-work experience than from conditions on the job. For example, one might explore the changing role of education in American society and its effect on the work attitudes of new entrants into the labor force.

There has been a recent emphasis on the close connection between education and preparation for work, not in the narrow sense

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[26] Katz and Kahn state that the patterns of individual behavior required for organizational effectiveness and functioning can be divided into three stages: A. Joining and staying in the system which includes recruitment, low absenteeism, and low turnover; B. Dependable behavior: role performance in the system which concerns meeting or exceeding quantitative and qualitative standards; and C. Innovative and spontaneous behavior: performance beyond role requirements which encompass cooperative activities with fellow members, actions protective of system or subsystem, creative suggestions for organizational improvement, and self-training. See Katz and Kahn, op. cit., p. 337; R. A. Katzell goes even further and suggests that the organizational structure should provide freedom to take necessary action by those who have ability and motivation to further its objectives. See "Contrasting Systems of Work Organization," American Psychologist 1962, pp. 17, 102-108. It would not be out of place to mention here that the underlying notion is that an organization will be flexible and willing to change.

of specific skill training, but in the wider sense of imprinting specific role models that were congruent not only with the labor force requirements of an evolving industrial society, but also with the objective of encouraging acceptance of the basic institutions of that society. Thus, the educational structures have encouraged order, discipline, acceptance of authority, and fitting in with the things as they were.

But our educational system is changing. More and more, creativity, originality, spontaniety, and a healthy questioning are being stressed as the attributes toward whose development education should be oriented, and from whose development learning and analytical ability more easily flow. Clearly, then, this kind of schooling will generate a set of expectations which demand reasons not authority. Although these changes in schooling derive in large part from our greater appreciation for what motivates learning, the potential consequences for work-force behavior are far-reaching. Is it too much to suggest that forms of work organization which allows for greater participation are needed to satisfy these expectations which our educational system will increasingly impart to our youth? Should we go further and explore whether there is a closer connection between educational system and subsequent work-force orientation? Is it possible and/or desirable to restructure our education system to encourage more participative modes of behavior? If these are desirable on other grounds (e.g., more efficient learning process, better psychological support for the child, etc.), can we be indifferent to their prospective implications for the organization of work? Should such conditioning be more consciously and deliberately oriented

toward a particular kind of organization of work in the future? Although the answers to such questions do not lie ready at hand, we must face now the issue of thinking more clearly about the connections between education and work.

The same kind of argument can be applied when we turn to other socializing influences such as the family and the cultural milieu. These institutions are changing rapidly, and in the same direction of reducing the elements of authority and increasing reliance upon more persuasive modes of influencing behavior. Here, too, these trends come increasingly in conflict with past expectations about work-force behavior and motivation, and thus it is likely that the organization of work must give way in the face of these powerful social forces.

Margaret Mead, in her book on Culture and Commitment (1970), has distinguished among three cultural systems. In one the children learn primarily from their elders--parents and grandparents. In the second children learn from both their peers and parents. The third cultural system is one in which children learn their attitudes and values from their peers. According the Mead, it is the latter culture which exists today and which "represents what is to come." In commenting over this development, one writer has stated that "Today's youngsters have found the full limits of the pragmatic and problem-solving approach to which we adults are so deeply wedded. Such an approach does not take into account all of the unintended side effects." By this he means that past cultures tended to ignore the consequences of this approach. Today's youth is equally interested in the side effects of certain types of action.

IV. The Re-allocation of Educational Resources

The Question of Priorities

Society today is confronted with growing demands for governmental expenditures in such areas as education, welfare, proverty, medical care, etc. The gap between these total demands and the resources available to the various governmental units is ever-widening. As these various programs compete for the so-called "limited buck," it becomes essential to determine priorities not only between education and other programs but also among the various competing groups within education. The competition within education may be among elementary, secondary, and post-secondary (all types) levels. And, within each of these groupings, one would find competition between academic and vocational education at the secondary level, between undergraduate and graduate education at the post-secondary level, and between two-year and four-year programs at the undergraduate level.

Given this competition for limited resources, it is clear that priorities must be established. The priorities can be established only on the basis of comparing the outputs (or objectives or benefits) of various activities with the inputs (costs) of these activities. No longer can the educator lay claim for more resources simply on the grounds that education is "good" and more education is "better." The same argument could be made for other social programs. Nor can vocational educators continue to ask for "more" at the expense of

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[1]This section draws heavily from New Directions for Vocational Education by Carl J. Schaefer and Jacob J. Kaufman, D. C. Heath and Co., Lexington, Massachusetts, 1971.

academic educators, or vice versa, without relating these extra resources to the achievement of specified goals.

The fact is that there has been a misallocation of educational resources.

When the allocation of resources in the intermediate and secondary levels of education are examined, one finds an overemphasis on academic education (college preparatory) and an underemphasis on occupational training. It has been asserted frequently that for grades 7 through 12 approximately 80 percent of the schools' resources are devoted to academic or a generally watered-down general curriculum, despite the fact that 80 percent of these youngsters will eventually enter the world of work, either as dropouts or as graduates. Regardless of the precise percentages, the allocation of resources is perverse.

The significant question is how this misallocation of resources has developed and continues to be maintained. The answer is five-fold: first, there is the general stress on a "college" education fostered by parents and educators, as well as society in general; second, there is a tendency to ignore the results of research which reveal that there is a wide gap between the offerings of the schools and the aspirations, needs, and interests of youth; third, there has been a failure on the part of educators to take cognizance of a large group of youngsters (probably 40 to 60 percent of the secondary school population) whose needs are not being met by either the academic or the vocational curriculum as presently constituted. These youngsters have usually been "trapped" in a general curriculum; fourth,

education has failed to evaluate appropriately its programs to determine the relationship between the resources employed (input) to the objectives achieved (output) in the form of student performance, behavior, and attitudes; fifth, education has failed to recognize the achievements of a variety of experimental programs in various parts of the country which are designed to meet the needs of youngsters by educating them in terms which are relevant to them and useful to the world of work.

For these, and other reasons, it is clear that resources have been inefficiently employed and badly allocated.

But, the question can be asked, what are the particular goals of the educational system? How do we know whether or not they have been achieved? Can achievement of goals be quantified? Can we relate costs to the particular programs designed to achieve the goals?

The Goals of Education

Generally, an educational goal has been expressed in terms of "improving the quality of education." It would be wise to state the objective in more specific terms. Is the objective to have more students accepted into college, or to have the students score higher on standardized achievement tests, or to have more students obtain employment at higher starting salaries, or to have the school receive a higher rating by its accrediting agency?

A statement of the specific objectives in specific terms makes it easier to list and to evaluate the available alternatives. Let us assume that the last alternative--a higher rating--is the goal.

There are many ways to achieve a higher rating. One way is to improve the physical facilities of the school. This could be done through refurbishing existing facilities or constructing new facilities. A second way is to improve the quality of the teaching staff. This could be accomplished by in-service training, tuition refund for courses, or salary incentives. A third way is to hire more teachers who could be used either to reduce class size or, by keeping class size the same, to give the teachers more time for preparation. A fourth way is to hire teaching assistants to perform routine tasks. A fifth way is to hire coordinators who would rearrange the instructional process and assign teachers to lectures, practicum, group discussion, tutoring, etc.

As indicated, to achieve the goal of higher accreditation five general alternatives are possible. Some of these might be rejected because they require funds which are not available (new buildings), or because properly trained personnel (teaching assistants, coordinators) are not available. However, the possible alternatives are considered in an explicit manner. Too often the decisions are made without the alternatives even being suggested.

The example is too simple. It assumes that there is general agreement as to the specific goal. The most bitter educational controversies involve the question of which of several possible goals should be pursued. The degree to which the separate goals are mutually exclusive determines the degree of bitterness in the disputes. The way in which the schools are now organized makes it impossible to prepare a majority for college and at the same time to give the disadvantaged the type of assistance they require. Nor is it possible to

prepare students for college and also to give specific vocational training of any depth.

Much of the controversy in education arises over such issues. However, it is only rarely that they are stated this explicitly. Instead of a debate over the relative importance of various goals, there is the hue and cry of various interest groups which attempt to mold educational policy to their own ends. This type of pressure is perhaps inevitable in a democracy. But if educators are to assume the role of professionals--a role to which they constantly aspire--they must begin to act in the interest of those they serve. And this group is not the citizens, the taxpayers, or even the school board. It is their students. Educators should be guided in their activities by more than commonly agreed upon values prevalent in their communities. They should attempt to be both agents of social change as well as agents of cultural transmission. As agents of social change they will have to make difficult decisions and be prepared to defend them.

What is the basis for a recommendation that the goal of education be drastically revised and that resources be re-allocated among existing curricula? It is the recognition that a continuation of curricula along conventional lines will lead to a sharp division in our society based on class lines or family origins, rather than on the basic potential of the individual. The latter is more consistent with the democratic basis of our society.

The Question of Curriculum and Social Class

The highest priority for society is the education of its young. The educational process is fundamentally designed to transmit a set of democratic values. Examined from this point of view, the institutions in our society for providing this type of education tend to abdicate their responsibilities when they divide youth into "tracks" or "curricula." This is not to imply that there are no individual differences or that there are no different interests of individuals. But it is meant to indicate that individual differences in the learning process should not result in placing youngsters in "tracks" under which they are stigmatized as "second-class" or even "third-class" students.

The tendency in recent years in most states, as a result of the Vocational Education Act of 1963, and the amendments of 1968, has been to develop area vocational schools. The reasons for such a development are quite clear. The smaller schools cannot provide vocational training in a variety of subject areas because of size. The solution appears simple: establish an area school that can serve the needs of a larger geographic area and provide the necessary diversification. It is assumed that we thus have an "efficient" use of resources.

But the "efficient" use of resources is not synonymous with "least cost." A resource is used efficiently only if the results (or benefits) tend to exceed the costs. Therefore, we must also be concerned with output (the student).

The development of area vocational schools tends to establish more firmly a division of our youth along class lines. Middle-class children tend to attend their local schools, to enroll in the academic (college preparatory) curriculum, and to move on to college or some form of post-secondary education. Children of working-class families tend to be moved into the vocational track and to end up in the working-class themselves, being denied the opportunity of upward mobility. These social class distinctions should be minimized.

Another development which tends to maintain class lines is the establishment of area vocational schools in "suburban" areas where the more affluent, white, lower-middle class families recognize the inadequacies of the so-called comprehensive schools in the local community. There is a tendency for such parents to support financially the development of such vocational schools. However, in the urban areas, where the parents may be from the working class, both white and Negro, the financial ability to support such schools through taxes is quite limited. Thus, there may be a tendency to misallocate federal and state funds. The contrasts between vocational schools in the urban areas and area vocational schools in nonurban areas are startling.

Education and Options

An essential ingredient of an educational system in a democratic society is providing the youth with equal educational and social opportunities. To avail themselves of such opportunities youth must be served in a manner which permits exploration and choice, with the promise that any choice does not foreclose future options.

It is, indeed, unfortunate that probably the single,.most important factor influencing the direction of a youngster's life is his family environment, a factor over which he has no control. Thus, any youngster entering the school system with disadvantages which affect his learning abilities is immediately disadvantaged in a relative sense. The equal treatment of youth at this stage of his growth, in the form of equal educational expenditures, would still produce unequal results. It would appear reasonable that any attempt to provide equal educational and social opportunities would require unequal expenditures for those youngsters entering school from relatively poorer environments. Such unequal expenditures mean greater expenditures for this group.

Concomitant with such resource re-allocation is the necessity that there be a multiplicity of choices and, when a choice is made, that the student not be foreclosed from changing his decision. If, as sociolcgists and psychologists assert, the future of youngsters is heavily predetermined by family environment it would appear that the schools should utilize every means to open up new vistas for youth. That is, it is essential that the educational system provide, through its curriculum and guidance activities, the means by which the students can off-set these predetermined factors which influence their decisions. Therefore, significant changes in curriculum are required and a new approach to guidance must be taken.

The curriculum must be radically revised--in all areas--to accept the concept that youngsters have the ability to learn and that they do not need to be "taught." Learning should be based on

> desperation the thought of four or more years of book work. The rewards of education are remote. . . Some of these youth may sense the value of education, but feel they can never persist through school. They have been beating their heads against a stone wall for ten years or more. Quitting school may not solve any problems, but it does give instant relief.
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> What we are saying, in effect, to many of these low-average youth is 'Look--going through high school is a glorious adventure in learning and growing strong. It's like climbing a mountain; you get to the top, and you get your diploma. But we notice that you have two left feet and can't climb mountains at all well. So if you just sit in class, keep your mouth shut, and don't get into my hair, you'll graduate. We'll say you climbed the mountain, even though you didn't really. I suppose there are some other ways up the mountain and some special help we could give you, but we're so busy making hot chocolate for all the mountain climbers that it's better if you just sit there and pretend you're climbing.'[2]

This observation summarizes better than many tables and data what the main problem is that faces education today. Essentially it is a question of finding "other ways up the mountain." Almost everyone who is connected with education would admit that there is a large segment of young people--estimates vary from 40 to 60 percent of the school-age population--who do not really benefit from their school experiences. This is not a new finding, but the need to find ways to help these youngsters profit from education has acquired a new urgency.

When the need for laborers and unskilled production workers was high there was no need to design a curriculum for those students who had neither the aptitude nor the inclination for the traditional

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[2]J. A. Cullinane, "Improving School Programs for the Educationally Neglected," Guidance in American Education II: Current Issues and Suggested Action, Ed. E. Landy and A. M. Kroll, (Cambridge, 1965), p. 251.

school offerings. These students simply left school and found employment. Several forces in our society have acted to make this option unavailable to young people. Mandatory school attendance laws represent the prime example of these forces. These laws are rooted in the most humanitarian of motives. Unfortunately, they cause many youngsters to submit themselves, five days a week, to school experiences which tend to deny their basic human worth and dignity. Too often the "education experiences" of these youngsters teach only that they are less able and less worthy than their more academically gifted classmates.

Even if there were no school attendance laws, school withdrawal would not solve many problems for this type of young person. The labor market has little need for uneducated workers, and employers have been able to require a high school diploma as a criterion for employment. This is not because the diploma indicates the graduate has learned anything, but because it does indicate certain socialization traits such as willingness to accept authority, habits of attendance and punctuality, and an acknowledgment of the goals of middle-class society. In short, the employer believes, probably with some justification, that the high school graduate will be a good worker.

It is precisely this youngster--the one without any serious personal or social handicaps--that the schools have the greatest potential of serving. With a shift in emphasis and a re-allocation of resources, it should be possible to provide them with a useful education.

Obviously the school experiences for most of the disadvantaged group is also "not relevant," but to combine them with the group which is separated as the "nonrelevants" confuses the problem. The disadvantaged could profit from all the suggestions made for nonrelevants, but they need all these and more too. The disadvantaged need special help to overcome the sometimes chaotic and always deprived conditions of their homes.

The nonrelevants, as a rule, do not need this kind of assistance. They come from relatively stable homes where the necessities, and even some of the extras, of life are provided. The father usually has a regular job. The parents often urge their children to study hard and get a good education, but they do not engage in intellectual activities themselves. The children thus internalize the goal of upward occupational mobility which is reflected in their parents' regular work habits, but they do not see the relevance of traditional academic pursuits to this goal. They see fathers who have steady jobs which yield the money that they someday hope to earn, but they never see these fathers read books, write letters, or work problems in algebra. They ask, in effect, how will the things the school asks us to do make it easier for us to get jobs? The school answers, in effect, stay in school until you get your diplomas and they will make it easier to get jobs. The youngsters agree to the bargain. They come to school, stay out of trouble, do enough to get by, and receive their diplomas. Their high school years are mainly wasted.

By bringing relevance to the activities pursued in high school this waste could be largely overcome. And relevance could be

introduced by finding topics of interest, by showing the interrelationships among various courses, and by stressing the ways in which the skills that the student learns in high school will be used when he takes a job.

Vocational education has many of these desirable features. Its present organization, however, tends to limit it to a small proportion of students. In its traditional form, vocational education is geared to serve those students with firm occupational goals and average or above-average ability. Unfortunately, there are not many students in our high schools who fit this description. The widespread emphasis on a college education as the surest route to a useful and rewarding life tends to cast most of the above-average, and even many of the average students, into the college preparatory curriculum.

A flexible curriculum allows the student to defer specifying a vocational choice. Many students at the high school level cannot make such a choice. They have a certain direction and inclination but they cannot specify the particular type of occupation they wish to follow. The selection of a specific program in vocational education involves more of a commitment to a vocational goal than most high school students are able or willing to make. They ask: why spend two or three years learning to do a job that I may not like?

An additional consideration that causes many students to avoid vocational courses is their desire to maintain future options. They probably would not express their reasons in these words, but they are aware that the vocational education curriculum limits the possibilities

open to them after high school. Although they are not academically oriented, they feel that going to college would be a "nice thing to do." Many are unwilling to shut themselves off from this possibility. Even many students in the general curriculum hold a vague hope that somehow they will be accepted by a college. These considerations are some of the major obstacles in attempts to attract more students into the traditional vocational education programs.

Is there a curriculum to meet the needs of these youngsters? Can the traditional vocational education curriculum fill this requirement?

Curriculum

Vocational education does have something to offer those students who are presently wasting their high school years by enrolling in the academic or general curricula. But this potential will not be realized unless vocational instruction, as it is currently offered along traditional lines, is limited to the talented few. What is needed is a new arrangement for a large group of students in the "gray" area who will be given a chance to explore the nature of many occupations--an arrangement which demonstrates the interrelationship among courses and between these courses and future plans, which provides training in broad occupational skills that can be used in a variety of occupations, and, finally, which maximizes the options open to the student after he leaves high school.

Is such a curriculum possible? It is, and it can be offered with relatively minor re-allocations of resources and facilities.

The first necessity is a commitment to do something for those students who are usually ignored. Once this commitment is made the necessary procedural arrangements can be organized.

There is one aspect that is essential--teachers of different courses must be given time in which they can meet together to plan the coordination of their instruction. This coordination must be a continuing weekly activity over the entire school year.

The educational process would no longer be seen as teaching, but instead as providing the conditions for learning. Providing these conditions involves tailoring instruction to the needs and interests of the student, rather than forcing the student to adjust himself to a predetermined curriculum. This is, of course, the issue of individualized instruction (or, rather, individualized learning), which receives more lip service and less effort than probably any other aspect in education.

There are many factors which go contrary to the recognition that each individual has his own learning style: state mandated courses, college admissions policies for the evaluation of courses, textbook and course materials designed for uniform instruction, and the teachers' own training and experiences. All tend to perpetuate the customary lecture-recitation forms. These factors also tend to continue the compartmentalization of instruction.

The curriculum being advocated stresses individualized instruction across subject lines. Teachers of the traditional subjects would act as resource persons in their own areas of expertise and would guide the study and activity of the students along self-selected

lines of interest. The students would proceed at their own learning rates towards goals they had chosen for themselves.

It is expected that at the secondary level much of this activity would be occupationally-oriented. During the senior high school period most young people are interested in exploring the nature of various occupations. The curriculum being suggested would give them the opportunity to carry out this exploration. Instruction in other subjects could be related to the central theme of occupational exploration.

It is at this stage that the special style of vocational education could make its unique contribution. The youngster who is essentially nonverbal can be shown the utility of reading when reading skills make it easier for him to follow the instructions for a machine he wants to use. He can be shown how a knowledge of certain scientific laws makes it easier for him to solve the particular problems he encounters. He can be shown how to represent some problems in algebraic or geometric terms and he can see the advantages of manipulating them in this style rather than physically. All of these learning experiences can be shown to be immediately relevant to the problems he is trying to solve. There is a much higher probability that concepts learned in this manner will be retained and applied in similar situations in the future.

Along with an increase in the relevance of the materials studied, the style of vocational education has several additional advantages. It is project-oriented and the student can experience a sense of accomplishment, which producing useful objects yields. Such a sense of accomplishment this type of student rarely or never experiences in the academic classroom. The instructional process of

an occupationally-oriented type by its very nature tends to be individualized. The instructor works with the students individually as they progress at different speeds on different projects. The mood in a vocational shop is informal and relaxed. Rather than requiring the students to sit quietly, they can move about to obtain needed materials or tools. As a final bonus, the instructor, by observing the student's work, can set standards for disciplined work habits and personal responsibility.

It is quite evident that the recognition of the main problem of occupational education, or even the development of an appropriate curriculum, is not sufficient to solve the problem. An important ingredient in the process is the educational preparation of teachers.

Teacher Education

To capitalize on the potential inherent in this new curriculum it is necessary to develop teachers who are broadly trained, who are capable of working as members of interdisciplinary teams, and who have an understanding and sensitivity to the characteristics of students whom this curriculum is designed to serve. The role of these teachers is not so much to teach as it is to establish a learning environment.

A learning environment is made up of many elements, most of which have yet to be specifically identified. The one principle, that is most generally accepted by learning psychologists, is that behavior that is reinforced tends to be repeated. The problem then becomes one of providing situations which yield reinforcements. These reinforcements can be classified as internal and external to

the individual. Internal, or self-administered, reinforcements are those which give the feeling of satisfaction to persons when they complete difficult tasks or "put in a good day's work." External reinforcements include the approval and recognition which one receives from others for his efforts.

The usual student, for whom school is not relevant, receives little of either kind of reinforcement for his school efforts. Since he is not academically adept he has little chance to obtain approval from his teachers or classmates. And, since school activities have little intrinsic interest for him, it is a rare occasion when he will feel satisfied about his own work. This requires more self-administered reinforcement. However, to provide more external reinforcement, it will be necessary to develop teachers who can accept and approve the students on their own merits. Most teachers evaluate youngsters on their ability to do college work. This standard is, of course, totally inappropriate to the large proportion of students who require an occupationally-oriented curriculum. Teachers who have been oriented to the needs and interests of these students and who are supported by a sympathetic administration can use more appropriate standards.

Both of these elements are essential. Both the teachers and the administration must see the curriculum as a means of meeting the needs of students. If these students do not perform as well as others on a standardized test, the teachers should not be pressured to improve this test performance. If the administration applies such pressure, the teachers will subvert the curriculum and use it to teach for the type of student performance by which they (the teachers) are

evaluated and if the students do not respond to this type of instruction--and it is obvious they do not--the teachers will tend to reject the students.

This is the cycle that currently prevails in the typical general curriculum. The teacher is required to teach tool subjects by essentially verbal means to students whose main interests and abilities are in other areas. The students do not respond to the teacher nor do they perform well on those standards by which the teacher's performance is evaluated. The administration evaluates the teacher by standards that the teacher can never satisfy, given the mismatch between the curriculum and the students he must teach. The teacher is thus frustrated in his efforts and blames the students for his failure. He thinks that if the students would only try a little harder he could accomplish the goals the administration has set. The students, in turn, are aware of the low regard in which their teachers hold them. They too are bored and frustrated by the materials the teacher attempts to make them study. The cycle of mutually negative interactions is established and maintained largely because of the inappropriate nature of the curriculum.

But even appropriate teacher education is not enough. What is required, in the final analysis, is strong educational administration and leadership, financial and public support.

Conclusion

What, in effect, is being suggested is a complete restructuring of the educational system. It is a system based on the assumptions that (1) youngsters have a capacity to learn, and do not have

V. The Assessment of Human Resource Programs

The question can be raised as to the appropriate methodology to employ in the assessment of programs designed to improve and develop our human resources.[1]

Since the 2nd World War there has been an increasing awareness of the evils of widespread and prolonged unemployment, and the need to improve the situation. However, for many years there was controversy about the basic causes of unemployment. Charles Killingsworth was a strong proponent of the structuralist side, believing that the prime cause was structural imbalance, while members of the President's Council of Economic Advisors at the time thought it was due to inadequate aggregate demand. There now appears to be some agreement that elements of both exist in unemployment.[2]

Influenced by those who believed that structural disequilibrium was an important cause of unemployment, the Area Redevelopment Act was enacted in 1961, folowed by the Manpower Development and Training Act in 1962. Both were designed to reduce unemployment by retraining unemployed workers using government investment. During its years of operation, the MDTA has been amended to reorientate it toward the hard-core unemployed, because of criticisms that it was not meeting the needs of those for whom it was designed.

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[1] This section draws heavily from a paper presented at the New York State School of Industrial and Labor Relations seminar on "Urban Manpower Trends and Problems in the 1970s." Cornell University, October 6, 1970.

[2] The main arguments are summarized by Margaret Gordon, "U. S. Manpower and Employment Policy," Monthly Labor Review 87, November 1964, pp. 1314-21.

From the outset, studies have been initiated to evaluate the retraining programs, and to attempt to answer the following major questions:

1. Are the retraining programs economically effective and efficient?
2. Do such programs meet the needs of the hard-core unemployed?
3. Can unemployment be reduced by retraining programs, without corresponding action to increase aggregate demand?
4. Could/would retraining programs be carried on without government sponsorship?

The purpose of this section is to present a brief survey of some of the studies that have been undertaken and their main results; to point out their major limitations; and to examine how far they go in answering the above questions. Finally, there will be a short discussion of the implications of the results for public policy, and the need for further research.

Studies on Training in General

Much of the methodology and many of the concepts utilized in specific studies on retraining under the MDTA were borrowed from studies aimed at evaluating training in general; for example, on-the-job training and vocational education. These have, in common with retraining under the MDTA but unlike general education, mainly economic objectives--to improve their income and increase their period of employment--which make the problems of evaluation easier.

On-the-job Training. The early work on on-the-job training was carried out by Gary Becker and continued by Jacob Mincer. Becker[3] produced a theory of investment in human capital, that is "influencing future real income through the embedding of resources in people," and applied it to on-the-job training. "Training might lower current receipts and raise current expenditures, yet firms could profitably provide this training if future receipts were sufficiently raised, or future expenditures sufficiently lowered." He pointed out the difference between general and specific training; the former is equally useful in many firms, whereas the latter is of use only in one firm. With general training, the cost as well as the return will be borne by the trainees, not the firm, in the form of initially lower wages with the expectation of higher wages in the future. If the training were completely specific, the firm would have to pay all the training costs, for no national employee would pay for training that did not benefit him. The firm will then be very reluctant to lose him. Usually most training is a combination of general and specific training, so the firm and trainee will share the costs.

Jacob Mincer[4] developed this theory further in order to estimate the amount of resources invested in on-the-job training as distinguished from formal education, and to estimate the rates of return

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[3]Gary S. Becker. "Investment in Human Capital: A Theoretical Analysis," Journal of Political Economy, Vol. LXX, Part 2, October 1962, pp. 9-49.

[4]Jacob Mincer. "On-the-job Training Costs, Returns and Some Implications," Journal of Political Economy, Vol. LXX, Part 2, October 1962, pp. 50-79.

on such investments. Although a direct comparison of workers engaged in on-the-job training with a group similar in all respects except that they did not receive on-the-job training would have been preferable, he was restricted by the scarcity and unreliability of data. Instead, by utilizing Becker's theory, he compared two average income streams of workers differing by levels of schooling. He found that investment in on-the-job training was a very large component of total investment in education, and that the rates of return were lower for the on-the-job training than for total training at college level.

Vocational Education. From these initial studies of on-the-job training come others concerned with evaluating vocational education. These further developed the methodology and applied it to case studies. There were usually two measures of program success--improvement in income and a reduction in unemployment. In two of the three studies considered here, the evidence suggested only small returns to expenditure on vocational education, but in the third the investment was shown to be worthwhile.

Arthur Corazzini,[5] in his case study of Worcester, Massachusetts, showed that in spite of the higher cost of vocational education, there were still unfavorable differentials in pay. This was slightly modified by the effect of nonincome benefits, in that vocational education could be viewed as a social investment in

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[5]Arthur Corazzini, Vocational Education, A Study of Benefits and Costs (A Case Study of Worcester, Mass.), submitted to the Office of Education, Department of Health, Education, and Welfare, August 1966.

dropout prevention. However, he recommended a reduction of investment in vocational education, and consideration of alternative programs for on-the-job training. Michael Taussig[6] performed a similar analysis in New York City and again showed very small returns on a big investment. However, whereas Corazzini had assumed that the existing programs were efficiently operated, and, therefore, the investment should be diverted to other programs, Taussig realized that changes were necessary within the vocational education program, and he believed that the failure was tied up with racialism.

A third case study considered was an analysis of vocational versus academic education in three cities.[7] Equal emphasis was given to the development of the broad methodology and to the conduct of the empirical study. Care was taken to properly control for the socioeconomic factors; benefit data was obtained for a few years following graduation; the fundamental difference in the nature of education from other public investment projects was scrutinized; and finally the different criteria for allocating resources were examined to decide which was the most appropriate for the purpose.

The results showed that additional public funds should be spent on vocational-technical rather than academic education, if

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[6]Michael Taussig, "An Economic Analysis of Vocational Education in the New York City High Schools," a paper prepared for the Conference on Vocational Education, The Brookings Institution, Washington, D. C., April 17-18, 1967.

[7]Jacob J. Kaufman, Ernst W. Stromsdorfer, Teh-wei Hu, and Maw Lin Lee, An Analysis of the Comparative Costs and Benefits of Vocational Versus Academic Education in Secondary Schools, submitted to the Office of Education, Department of Health, Education, and Welfare, October 1967.

monetary indices are accepted as measures of benefit and cost. But the authors emphasized the dangers of generalizing from a small specific sample, and, like Taussig, pointed out that the conclusions do not mean that vocational-technical education should be continued along traditional lines. Efforts should be made to determine the degree to which the programs are being efficiently operated.

Studies on Retraining Under the MDTA

There have been numerous attempts to evaluate the programs initiated under the MDTA, but only a few which were specifically cost-benefit analyses. It is, however, useful to examine a selection of the others, partly to see what measures of program success are used and partly to compare conclusions with the cost-benefit analyses.

Simple Evaluation Techniques. Harold Edgerton and Robert Sylvester[8] were concerned in their study more with the ability to practice the outcome of the MDTA programs than with evaluating its economic efficiency. However, they do provide valuable insight into the efficiency of the original program, which is an aspect not revealed by cost-benefit analysis, as shown above in the discussion on vocational education. Their measures of program success were the percent of trainees who completed the course and the percent who were employed in the field of training. The correlation of program success with the previous level of education, the degree of unemployment, and the amount of public assistance received was clearly

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[8]Harold Edgerton and Robert Sylvester. "The Prediction of Outcomes of MDTA Programs--A Pilot Study," Contract No. OE-J-85-037, Performance Research, Inc., February 1966, 19 pp.

demonstrated; so to improve the success rate would exclude the people for whom the MDTA was primarily designed. At the same time, however, it was shown that the predictors would be divided into two--those which relate to the characteristics of the trainees, and those describing the program and management. It is by adjusting the latter that the program success can be increased without changing the composition of the trainees.

Similarly, David Pucel[9] was concerned with appraising the efficiency of the original program in terms of the potential of the prospective MDTA trainees for post-training employment. However, in his attempt to obtain selection criteria which would reduce the possibility of dropouts, and unemployment afterwards, he only examined the personal characteristics of the trainees. This is of little advantage for overall improvement of the program, as upgrading the quality of trainees reflects the purpose of MDTA. But it is of advantage in that Pucel is advancing on improved placement system for different occupational training, to take greater account of personal characteristics. For example, someone with manual dexterity will have more chance to succeed as a craftsman than as a salesman.

In 1967 a Committee on Administration of Training Programs[10] was set up "to determine if there is waste, duplication, and

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[9]David J. Pucel. Variables Related to MDTA Trainee Employment Success in Minnesota, Minnesota Research Coordination Unit in Occupational Education, and U. S. Office of Education, February 1968, 33 pp.

[10]U. S. Department of Health, Education, and Welfare, Report on the Committee on Administration of Training Programs, Washington, D. C.: Superintendent of Documents, Government Printing Office, March 1968, 78. pp.

inefficiency in administering these programs as many individual programs, and...to make recommendations for correction." Training programs within the concern of the Committee include those under the MDTA, the Economic Opportunity Act, and various educational acts. They therefore range from on-the-job training and vocational education to the Neighborhood Youth Corps and Job Corps. Although the committee found that some waste, duplication, and inefficiency existed in the nearly thirty separate federally supported jobs, they observed that these failings were rarely severe enough to vitiate the usefulness of these programs. They did point out numerous problems of inefficiency, misuse, and delay, particularly in the out-of-school Neighborhood Youth Corps, but to them the single most important waste was simply due to the inadequate level of funding of these training programs.

One interesting comment in the report reflects the state of research in this field. "The committee decided not to undertake any detailed economic benefit-cost evaluation of the various training programs, because of limitations of time and resources, and because of the nonexistence of benefit-cost evaluation models for the various programs."

Finally there is only one study at present which specifically evaluates Neighborhood Youth Corps. Regis Walther[11] attempted by experimental control group comparisons and follow-up interviews to judge the program effectiveness in terms of work and community

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[11]Regis H. Walther. A Retrospective Study of the Efficiency of the Cincinnati Out-of-school Neighborhood Youth Corps Program, Contract No. 81-09-66-19, George Washington University, July 1967, 70 pp.

adjustment. This included resources such as individual evaluation by the youth and by interviewers, employment records, and a number of police contacts. Although the subsequent rate of unemployment was still quite high and enrollees were not encouraged to return to school full-time, the data from the study provided substantial evidence that the youth were benefitting from the program. The difference with the previous studies is that the enrollees came strictly from the disadvantaged youth.

Cost-Benefit Analyses. While much can be learned from the above studies of retraining under MDTA, there was one serious limitation--nowhere were the benefits considered in relation to the costs. Many programs can be thought of which will yield benefits if the funds were available, but eventually the critical decision will be to allocate the limited supply of funds among alternative programs. It is for this reason that cost-benefit analyses are of particular use, although the advantages of the simpler studies cannot be ignored.

David Page[12] analyzed the retraining program in Massachusetts, using a sample of 907 retrainees. He stated the objectives of MDTA as the retraining of underemployed and unemployed workers for necessary skills so they become more gainfully employed citizens, and then proceeded to analyze the costs and benefits of the program. He assured that all costs would accrue during the training period, so there was no need to reduce them to present value. Gross benefits

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[12]David A. Page. "Retraining under the Manpower Development Act: A Cost-Benefit Analysis," Public Policies editors John Montgomery and Arthur Smithies, Vol. 13, 1964, pp. 257-267.

were measured as the change in individual income streams; were summed to give the average group income; were reduced to allow for the reduction of transfer payments in the form of unemployment compensation and welfare assistance, and for cyclical changes in the economy; and, finally, were reduced to present value in order to compare with present costs. It was concluded that under the circumstances and assumption of the study, retraining was worthwhile and indeed the benefits were understated if redistribution of income was taken as an objective.

West Virginia, where some of the first retraining programs under the Area Redevelopment Act were established, was the site of further intensive study into retraining programs. Ernst Stromsdorfer[13] asked three questions in this study:

1. Does retraining of the unemployed pay?
2. What are the variables affecting the relative success and failure of retrained workers in the labor market?
3. How do the variables affect different groups of workers exposed to training?

Using a sample of 1,379 West Virginia workers with 18 months' post-training labor-market experience, he concluded that for the sample considered retraining had a positive net effect on labor market success measured in terms of earnings and employment. Prior labor force experience appeared to be the most important dependent variable. He stressed that additional work was necessary to establish

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[13] Ernst W. Stromsdorfer. "Determinants of Economic Success in Retraining the Unemployed: The West Virginia Experience," Journal of Human Resources, 1967, 23 pp.

more precisely the differential benefits and costs of different retraining skills.

Alex Cain and Ernst Stromsdorfer[14] went further in emphasizing some of the limitations of the study. The number of observations was considered too small, particularly of women, and the comparability of trainees and nontrainees was a crucial assumption, which may not be justified. One of the major findings was the sizable difference in the measured benefits of the training program among several socio-demographic subgroups, for example the lower educated groups benefitted more than women--but the reliability of this depends on the adequacy of the sample size for subgroups. Although, despite this heterogeneity among groups, it is concluded that the overall results show benefits considerably in excess of costs; it is also noted that the basis for measuring payoff unfortunately contains biases which tend to overstate benefits.

Finally, Cain and Stromsdorfer comment that the returns are so high that one might ask whether or not the retraining would take place in the absence of governmental programs. However, they suspect not only that market imperfections may be pronounced, but also that the trainees were of initially higher quality, and that they obtained preferred treatment in the job market because of government sponsorship.

With the realization that the training programs were not properly serving the hard-core unemployed, amendments to the MDTA

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[14]Alex Cain and Ernst Stromsdorfer. "An Economic Evaluation of Government Retraining Programs in West Virginia," Retraining the Unemployed: Case Studies, Gerald Somers editor, The University of Wisconsin Press, 1967.

were enacted. Michael Borus[15] thought that the "redirection of the MDTA to encompass the hard-core unemployed will consequently influence the economic effectiveness of the whole retraining program." So he tried to estimate the economic costs and benefits of retraining the hard-core unemployed. He included such factors as literacy training, increased subsistence allowances, and higher dropout rates because those who are now attracted are less highly motivated, and showed that the average cost of retraining could easily increase by 50 percent. Assuming that the supply of funds is fixed, this could reduce the number of workers to be trained by a third.

Borus thought that the benefits did not always justify the costs. If there is a "vacuum effect," society does not derive any greater benefit from retraining these workers. The 52-week limit to the length of training period may not be long enough for the really disadvantaged to learn a job. But the study did not consider the noneconomic benefits to be gained by retraining these workers, and moreover there are situations when retraining the hard-core unemployed worker would be useful, for example if all jobs require a degree of training and skill or there is a large proportion of unskilled unemployed labor force.

Two further studies were performed by Michael Borus. The first was in Michigan in conjunction with Einar Hardin,[16] in which

[15] Michael Borus. "The Cost of Retraining the Hard-Core Unemployed," Labor Law Journal, September 1965, pp. 574-583.

[16] Einar Hardin and Michael Borus. "An Economic Evaluation of the Retraining Program in Michigan," Proceedings of the Business and Economic Statistics Section of the American Statistical Association, 1966.

many of the problems were stressed. In particular the difficulties of interviewing were emphasized, and the possible resulting bias because of the failure to locate highly mobile persons. Also, social benefits may be overstated in periods of large general unemployment, when retraining primarily redistributes jobs in favor of trainees, and understated when there are pronounced labor shortages. The other study[17] was of 373 workers in Connecticut, in which retraining proved to be a useful method to increase employment when occupations existed with insufficient labor supplies. His effectiveness depended on the existence of Borus, tried in particular to estimate the economic costs and benefits pertaining to the individual government and economy, and, like Cain and Stromsdorfer, concentrated on the sponsorship of the program, and concluded that neither firms nor individuals retrain to the extent that is socially optional. "If the burden of the costs of retraining were placed on individual workers, many would not enter the courses. Yet, at the same time, the benefit-cost ratio of the economy would be unaffected by the change in sponsors, and would remain greater than 60. The logical conclusion is that the individual sponsorship of retraining involves the possibility of great loss to the economy." Borus concluded that alternative methods of improving the labor market should be used in conjunction with retraining, since retraining is not a free good.

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[17]Michael E. Borus. "A Benefit-Cost Analysis of the Economic Effectiveness of Retraining the Unemployed," Yale Economic Essays, 1967, pp. 371-429.

Limitations of Existing Studies

Although the studies described above go far in evaluating retraining programs, there are still limitations to their usefulness, and dangers in placing too much reliance on them for policy decisions. One of the major limitations is, of course, that the training programs are so recent, and that there is no indication yet of how permanent the income and employment gains will be. This can only be erased by time, and follow-up studies of those already undertaken. The usefulness of the existing studies is mainly in determining the methodology and making conceptual difficulties more explicit.

Cain and Stromsdorfer pointed out that the assumption of the comparability of trainees and control group was crucial. However, even with the use of regression analysis to discount for variability between the groups, it is still unlikely that the groups are fully comparable. On the one hand trainees may be more job-oriented, and on the other hand they may miss excellent job opportunities which will not be repeated. But at least this method is an improvement on that used by earlier analysts where the before-training position was compared with the after-training position of the same people. It is also relatively insensitive to cyclical changes which can produce distortions of the gains.

Burton Weisbrod[18] examined the effects of training programs on third parties and, in particular, the possibility of a

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[18]Burton A. Weisbrod. "Conceptual Issues in Evaluating Training Programs," Monthly Labor Review, October 1966, pp. 1091-1097.

displacement of nontrainees by trainees. This may depend upon the level of total demand in the economy as well as on the degree of imperfection in the market, but "neither the facts nor the underlying issues...are clearly understood." The opposite case may also occur, that training of additional workers with relatively scarce skills could break resource bottlenecks, thereby expanding employment, productivity, and income among other workers. Another consideration should be that if the training programs were cut back, what would be done with the resources made available?

Closely related to this is the issue of the distribution of net benefits. In the studies, the two objectives generally considered were an absolute gain in income and an absolute gain in employment, but this may be underestimating the benefits, for the sure amount of income will mean more to the very poor. Economists usually separate the distributional effects from the efficiency effects and concentrate on the latter. It would be very valuable, however, in considering retraining programs, to know more about the characteristics of the specific groups that receive benefits and bear costs.

One important difference between those studies of retraining using the simpler techniques and those using cost-benefit analyses was in the measurement of benefits. The former included work and community adjustment, and in one case used the number of police contacts as an index. The latter was solely concerned with economic benefits. However, even among the cost-benefit analyses there was disagreement. Borus viewed only those who used their training subsequently as benefitting from the training programs, while Somers and Stromsdorfer considered all those who graduated as benefitting.

Others indeed consider that even attending part of the course may have benefit by making the trainee more work-oriented.

Some of the study authors commented that they suspected that the quality of the trainees was above average. This is also the contention of a paper by David Sewell,[19] who considered that the experience of the trainees analyzed was generally of minor interest to the poverty program. The really hard-core unemployed were excluded from the training programs by the aptitude requirements and their complete lack of motivation. Those succeeding were only the "temporary" poor who may have been able to improve their position without government assistance.

Conclusions and Implications

Most of the studies showed that job retraining was economically efficient under the conditions as pertained prior to the amendments to the MDTA. But the crucial variables were shown to be the factors affecting the quality of the trainees. Changes in the programs and in administrative procedure--to prevent delays, to ensure good placement evaluation, and to help to prevent dropouts--will all cause some improvements in efficiency, but it is unlikely that these could compensate for a reduction in the quality of trainees.

The question which is still unanswered is whether the reorientation of the training programs toward the true "disadvantaged" is economically efficient and effective. Sewell pointed out that the

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[19]David O. Sewell. "A Critique of Cost-Benefit Analyses of Training," Monthly Labor Review, September 1967, pp. 15-51.

results obtained from the early training schemes cannot be applied to job corps and to the more recent schemes. Borus went so far as to oppose the newer programs on the grounds that the benefits to society were so much greater when the trainee was of higher quality. It may be, however, that the criteria for one set of programs are not applicable to another. Research is therefore needed urgently on this aspect of training programs.

It is doubtful whether retraining programs could be carried on without government sponsorship. There is no conclusive evidence on this, but it is frequently suggested that the social returns are greater than the private returns. Moreover, if nonmonetary benefits were included, such as a lower crime rate and a well-educated population, the social returns would be even greater. There is also no conclusive evidence about whether unemployment can be reduced by retraining without corresponding action to increase aggregate demand. All of the authors were aware of the possibility of a trained worker's simply displacing an untrained worker, according to the state of the economy at the time.

Finally, the need for further research must be emphasized. The number of studies in this field is not very numerous, and analyses of Job Corps and Neighborhood Youth Corps are particularly lacking in the present day. When unemployment and poverty are foremost among the national problems, it is vital that the effect of programs designed to retrain the poor should be clearly understood.

VI. The Need for Planning

The concept of planning, let alone its practice, is very foreign to all educators. They continue to assume that "all things can be done," as if they had unlimited funds. Nor can they visualize the restructuring of the educational process by which better education can be achieved even with the same funding. They refuse to recognize that learning is a lifetime process and that they must provide conditions for learning and not just "teach." It is not enough for vocational education to train youngsters for an occupation, place them in jobs, and then forget them and allow them to struggle in the rapidly changing world of work. Youth must be trained to know how to learn new trades and occupations, either on their own or from educational institutions in communities which are concerned with more than training a specified age group.

Although Congress has specified the development of state plans for achieving certain goals--including nondiscrimination on the basis of sex and race, school administrators do not know how to plan for these goals. They "must be carefully taught." This point can be illustrated in connection with a discussion of discrimination against women in vocational education.

Some state administrators think that the mere announcement of a policy against discrimination meets the requirements of Congress. Local school administrators think that the mere announcement that young women can enroll in any vocational program is sufficient. And others, who go directly to the junior high schools with counselors and even some young women to explain that there is no discrimination, think such approach is sufficient.

There are, however, subtle institutional and other inhibiting factors operating. An illustration from another area may be useful. An official of a large public utility in a large urban area once explained that it is not enough to announce publicly that it is "an equal opportunity employer." A young Black may have never utilized a transportation system from a ghetto area into the business district. He/she may never have entered a large business building with a battery of elevators and elevator starters. He/she may never have confronted a receptionist on the appropriate floor. He/she may never have taken aptitude tests.

Similarly, young women face similar problems such as teachers who are unsympathetic to their enrollment in traditional male vocational programs; toilet facilities in vocational schools--particularly in the areas of traditional male programs--do not exist for young women; and peer pressures from their female and male friends may be great.

To what extent do teachers and administrators in vocational programs discuss these issues not only among themselves but with both the female and the male students?

In the broad area in the attainment of certain social goals, Congress has generally assumed that the legislating of these goals is sufficient. Unfortunately, in our society man is moved by his strongest motive and not his highest motive. Congress should provide for a system of financial incentives for the attainment of its goals. States should be allocated funds not only on a so-called "equitable" basis, but also in relation to the achievement of legislative goals. In turn, states should reimburse schools only

if similar goals are achieved. The incentive system should be such as to reward the achievers and penalize the failures. Why not apply to school administrators the same pass-fail system they have imposed on students?

What does one recommend in order to change the vocational programs when confronted by a variety of psychological and societal barriers which have existed for centuries? How does one change the attitudes and behaviors of employers, boards of educators, school administrators, and federal and state officials? How can we change the attitudes of parents?

These are difficult and complex questions. A Swiss historian once said that "the essence of tyranny is the denial of complexity." At the risk of being tyrannical let me suggest the following:

1. That the use of an incentive system be considered so that schools are rewarded if they achieve certain socially desirable goals.
2. Funds be made available possibly through an incentive system--whereby schools are reimbursed for extra efforts in counseling, in-service training for school administrators and teachers, and educational programs for parents and employers.
3. Employers be subsidized for acting in a manner consistent with the goals established by Congress in the form of tax benefits or subsidies.
4. Funds be made available for the training of administrators at the federal, state, and local levels in the

area of planning. The state of the art of planning is considerably ahead of its practice.

5. Research by experimentation should be supported. And this research can best be conducted by social and behavioral scientists who, too often, have been ignored by vocational educational administrators.

In the conduct of research, particularly involving experiments which require the cooperation of existing institutions, many obstacles have been encountered and most, if not all, can be overcome.

First, there tends to be a strong aversion to the word "evaluation," reflecting the fact that the institutional personnel feel threatened and, therefore, become exceedingly anxious. To the extent to which the issues can be put in objective terms, e.g., "a study of the factors which influence. . .," the fears of officials can be minimized.

In many projects the researcher is confronted with the problem of obtaining adequate data, adequate in the sense that they were consistent with the objectives and methodology of the projects.

In the conduct of cost-effectiveness studies, for example, it was found that the kinds of data collected were unsatisfactory, tending to follow accounting principles rather than economic principles. One illustration might suffice: there are usually data on, say, average costs, but the appropriate decision can be made only on the basis of marginal costs.

Probably no other country generates more data about its economy than the United States. Yet, when basic decisions are to be made about the effectiveness of a public program little, if any, data are available on the basis of which a reasonable decision can be made. Why?

In a recent paper presented to the American Economic Association, Charles L. Schultze explains this as follows:

> First, our existing data systems--which, whatever their weaknesses, have performed well for macro-policy decisions--are highly imperfect or completely useless as a measure of performance and a means of setting goals in the micro areas of social programs. Second, we have little knowledge of the micro production functions connecting program inputs with program outputs in most governmental social programs. (Italics in original.)

Schultze points out that, in the past, social policy was concerned with aggregate demand measures, regulation of the private sector, and income supplements. The more recent programs have been more concerned with changing "social behavior and social institutions," requiring knowledge of what Schultze refers to as "social production functions," requiring different types of data. Data of this type call for experimental programs which permit a careful analysis of the process (social production function) by which certain results are obtained.

VII. Conclusion

The purpose of this paper is to emphasize:

First, that the educational process must be understood as only one segment of human resource development.

Second, that certain significant structural changes are taking place in the labor market and that our educational institutions are not responding to these changes. A failure to respond will mean either the development of serious social problems or the development of new institutions which would meet these new challenges.

Third, an understanding of these changes and the development of appropriate responses requires the expansion of interdisciplinary research along experimental lines.

Fourth, a restructuring of the educational system is required, given the received knowledge to date from the various social and behavioral sciences. This calls for an examination of how existing educational resources are allocated.

Fifth, to restructure the educational system and to reallocate resources requires continous research on the assessment of human resource programs, of which education is one component.

Finally, educators must begin to develop a planning mentality which takes account of goals, alternative approaches to the achievement of these goals, the constraints which confront these alternatives, their costs, and their results.

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